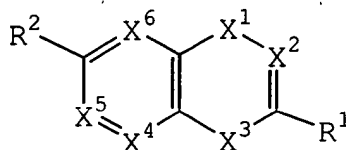


IN THE CLAIMS:

Please amend the claims as follows:

10. (currently amended) A compound of formula (I)



~~or including~~ enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts and solvates thereof wherein:

X¹ is C=O;

X² is CR³;

X³ is-NH-;

X⁴ is CR⁴;

X⁵ is CR⁵;

X⁶ is CR⁶;

R¹ is alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl, or heteroaryl, provided that when R¹ is alkyl, substituted alkyl or alkenyl, R² is not cyano;

R² is cyano or a substituted or unsubstituted monocyclic heteroaryl group, provided that when R² is cyano R¹ is not alkyl, substituted alkyl or alkenyl;

R³ is hydrogen, hydroxy, halogen, cyano, CO₂R⁷, NR⁸R⁹, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl, substituted alkynyl, cycloalkyl, substituted cycloalkyl, aryl, substituted aryl, heterocycloalkyl or heteroaryl;

R⁴, R⁵, and R⁶ are independently selected from the group consisting of hydrogen, halogen, nitro, cyano,

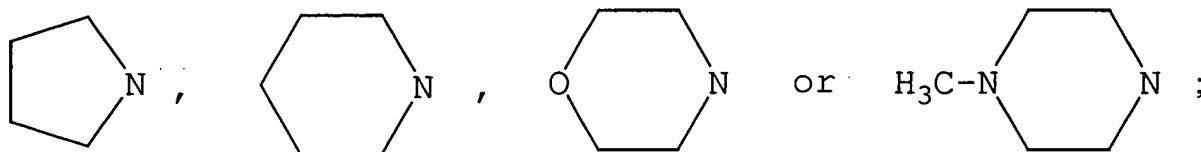
O-R⁷, NR⁸R⁹, SR⁷, S(O)R⁷, SO₂R⁷, SO₃R⁷, SO₂NR⁸R⁹, CO₂R⁷, C(O)NR⁸R⁹, C(O)alkyl, C(O)substituted alkyl, alkyl, substituted alkyl, alkenyl, substituted alkenyl, alkynyl and substituted alkynyl;

D¹ R⁷, R¹⁰, and R¹¹, are independently selected from the group consisting of hydrogen, alkyl, substituted alkyl, alkenyl, alkynyl, cycloalkyl, substituted cycloalkyl, C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O) substituted cycloalkyl, C(O)aryl, C(O)substituted aryl, C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted aryl, heterocycloalkyl and heteroaryl; and

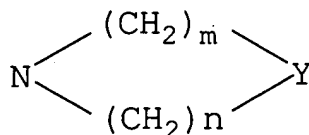
R⁸ and R⁹ are independently selected from the group consisting of hydrogen, alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, alkenyl, alkynyl, C(O)alkyl, C(O)substituted alkyl, C(O)cycloalkyl, C(O)substituted cycloalkyl, C(O)aryl, C(O)substituted aryl, C(O)Oalkyl, C(O)Osubstituted alkyl, C(O)heterocycloalkyl, C(O)heteroaryl, aryl, substituted aryl, heterocycloalkyl, and heteroaryl or R⁸ and R⁹ taken together with the nitrogen atom to which they are attached complete a heterocycloalkyl or heteroaryl ring;

with the following provisos:

- (a) when R¹ is substituted or meta unsubstituted phenyl, R³ is H, R⁴ is H, R⁵ is H and R⁶ is H, then R² is not PhCONH,



- (b) when R¹ is phenyl substituted with H, F, Cl, Br, I, CH₃, CF₃, OH, OCH₃, OCF₃, OCH₂CH₃, NH₂, NHCH₃, N(CH₃)₂, O-benzyl, -C(=O)-R₀, or -C(=O)-OR₀ and R₀ is a lower alkyl group; R³ is H, R⁴ is H, R⁵ is H and R⁶ is H, then R² is not

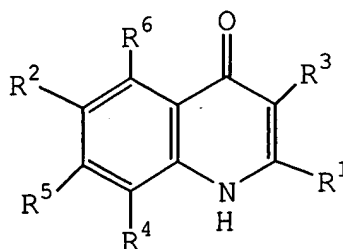


where Y is CH₂, O or S, m and n are each greater than 1, and the sum of m and n is between 3 and 6; and

- (c) when R² is heteroaryl, at least one of the heteroatoms must be O.

11. (canceled)

- D¹ 12. (currently amended) A compound of Claim 10 of formula (III)



(III)

or including enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, and solvates thereof wherein:

R² is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl, or substituted 5-oxazolyl;

R³ is hydrogen, hydroxy, NR⁸R⁹, alkyl of 1 to 4 carbons, alkenyl of 2 to 4 carbons, alkynyl of 2 to 4 carbons, substituted alkyl of 1 to 4 carbons, phenyl, substituted phenyl, cycloalkyl of 5 to 7 carbons, substituted cycloalkyl of 5 to 7 carbons, monocyclic heterocycloalkyl and monocyclic heteroaryl;

R⁴ is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, CF₃, OCF₃, OCH₃, SCH₃, S(O)CH₃, or S(O)₂CH₃;

R⁵ is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, vinyl, CF₃, CF₂CF₃, CH=CF₂, OCH₃, OCF₃, OCHF₂, SCH₃, S(O)CH₃, or S(O)₂CH₃; and

R⁶ is hydrogen, halogen, nitro, hydroxy, alkyl of 1 to 4 carbons, cyano, CF₃, OCH₃, OCF₃, SCH₃, S(O)CH₃, and S(O)₂CH₃.

13. (currently amended) A compound of Claim 12 or including enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, and solvates wherein:

R² is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl, substituted 5-oxazolyl or heteroaryl;

R³ is hydrogen, hydroxy, halogen, methyl or NR⁸R⁹;

R⁴ is hydrogen;

R⁵ is halogen, methyl, ethyl, substituted alkenyl, alkyne, OMe or OCF₃; and

R⁶ is hydrogen.

D¹
14. (currently amended) A compound of Claim 13 or including enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, and solvates wherein:

R² is 4-oxazolyl, substituted 4-oxazolyl, 5-oxazolyl or substituted 5-oxazolyl;

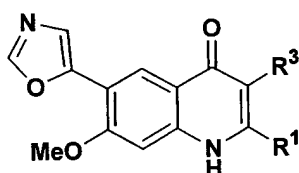
R³ is hydrogen, hydroxy, halogen or methyl;

R⁴ is hydrogen;

R⁵ is halogen, methyl or OMe; and

R⁶ is hydrogen.

15. (currently amended) A compound of Claim 10 of formula (V)

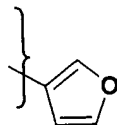


(V)

or including enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, and solvates selected from:

a compound of formula (V) wherein:

R¹ is

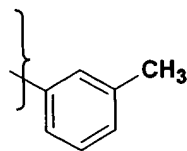


and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

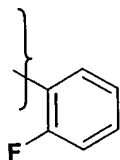
D1



and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is



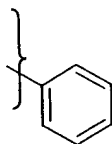
and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is CH_3 and R^3 is hydrogen;

a compound of formula (V) wherein:

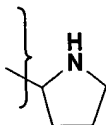
R^1 is



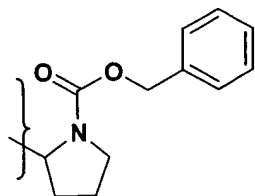
and R^3 is CH_3 ;

a compound of formula (V) wherein:

R^1 is

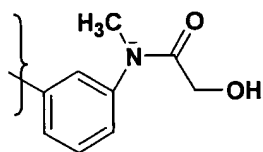


and R^3 is hydrogen;

R^1 is

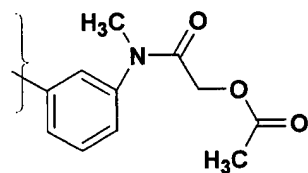
and R³ is hydrogen;

a compound of formula (V) wherein:

 R^1 is

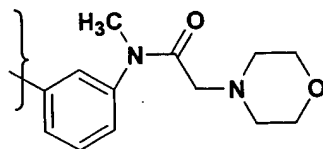
and R³ is hydrogen;

a compound of formula (V) wherein:

 R^1 is

and R³ is hydrogen;

a compound of formula (V) wherein:

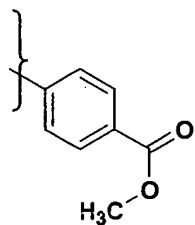
 R^1 is

and R^3 is hydrogen;

D¹

a compound of formula (V) wherein:

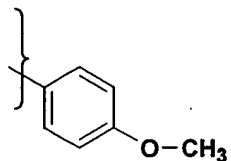
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

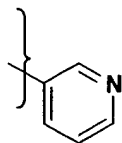
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

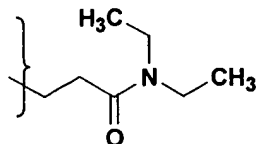
R^1 is



and R^3 is hydrogen;

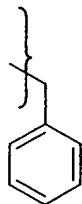
a compound of formula (V) wherein:

R^1 is



and R^3 is hydrogen;

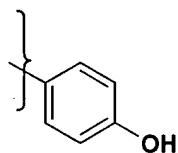
D¹ a compound of formula (V) wherein:
 R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

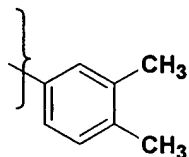
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is

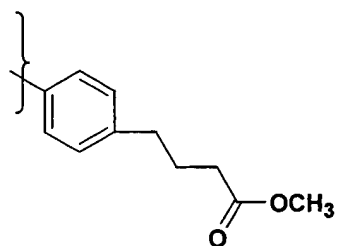


and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is

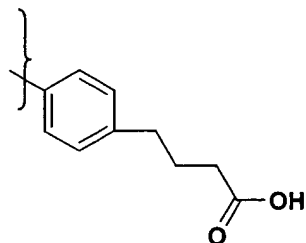
D1



and R^3 is hydrogen;

a compound of formula (V) wherein:

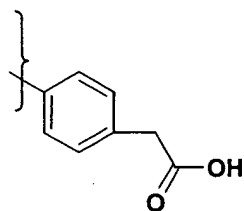
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

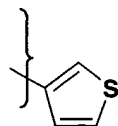
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is

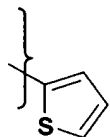


and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is

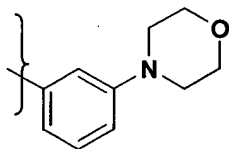
D¹



and R^3 is hydrogen;

a compound of formula (V) wherein:

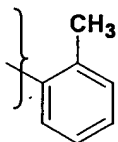
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

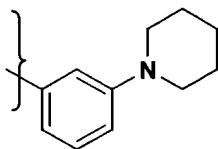
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

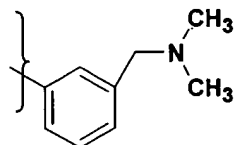
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

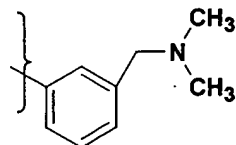
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

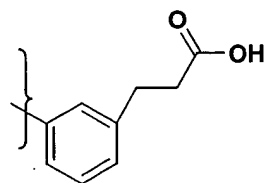
R^1 is



and R^3 is Br;

a compound of formula (V) wherein:

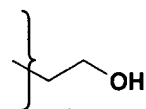
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is

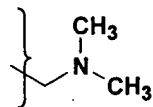


and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is

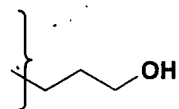
D¹



and R^3 is hydrogen;

a compound of formula (V) wherein:

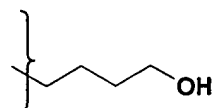
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

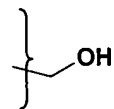
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

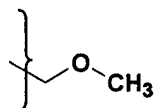
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

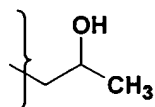
R^1 is



and R³ is hydrogen;

a compound of formula (V) wherein:

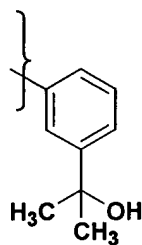
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

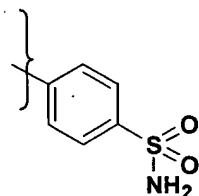
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

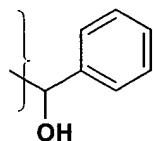
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

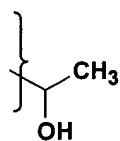
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

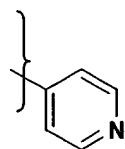
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

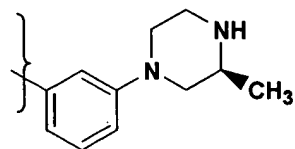
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

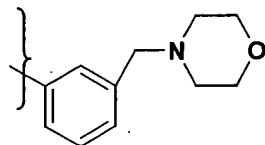
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

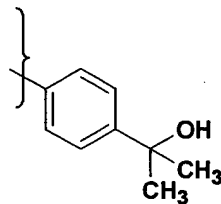
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

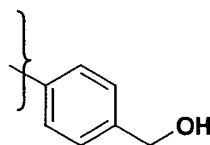
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

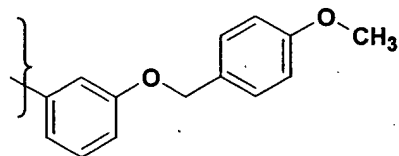
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

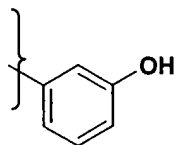
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

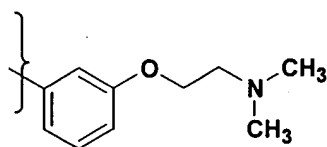
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

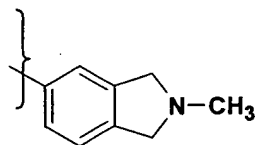
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

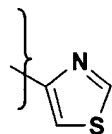
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

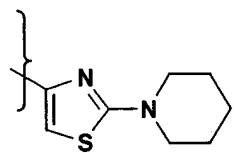
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

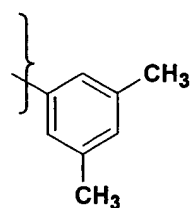
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

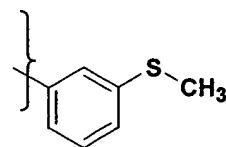
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

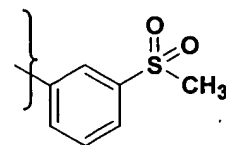
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is

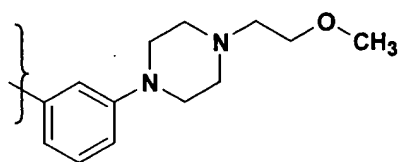


and R^3 is hydrogen;

a compound of formula (V) wherein:

R^1 is

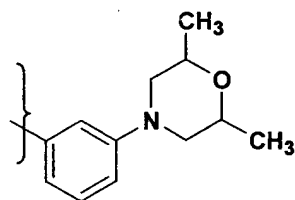
D¹



and R³ is hydrogen;

a compound of formula (V) wherein:

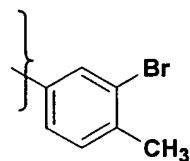
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

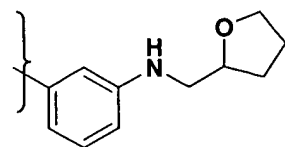
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

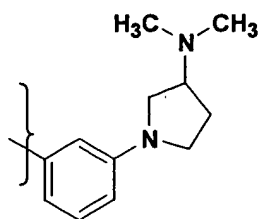


and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

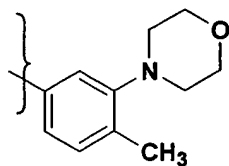
D1



and R^3 is hydrogen;

a compound of formula (V) wherein:

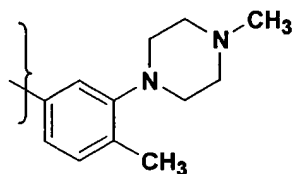
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

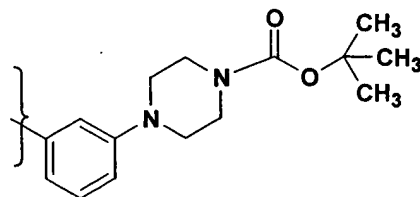
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

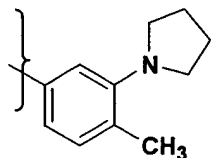
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

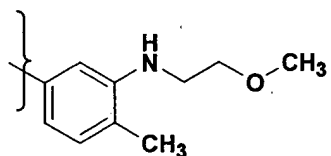
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

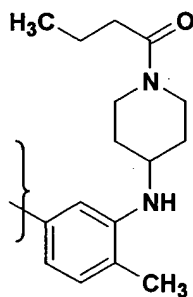
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

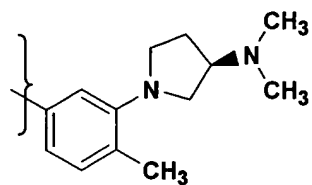


and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

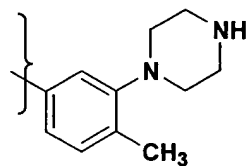
D1



and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

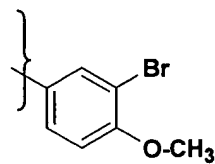
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

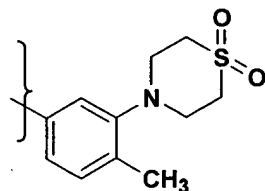
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

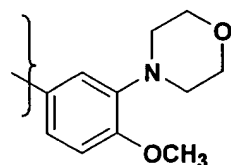
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

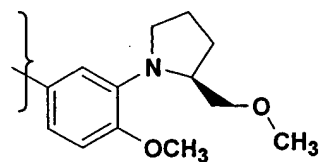
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

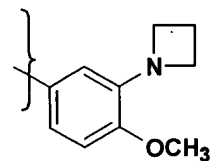
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

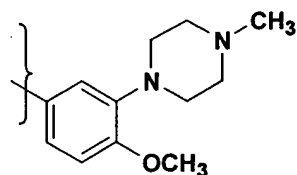
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

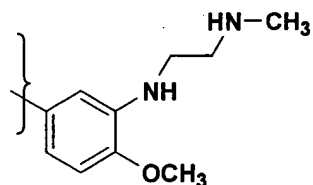
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

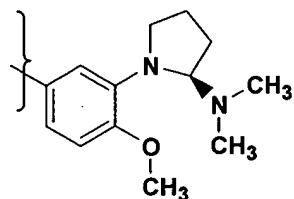
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

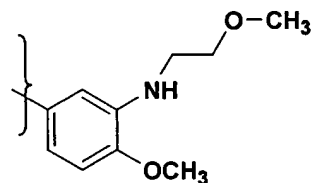
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

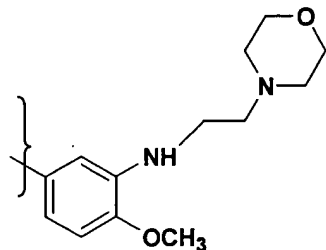
R¹ is



and R³ is hydrogen;

D¹ a compound of formula (V) wherein:

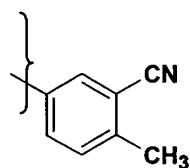
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

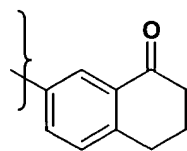
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

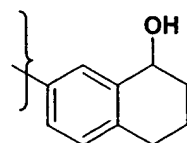
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

R¹ is

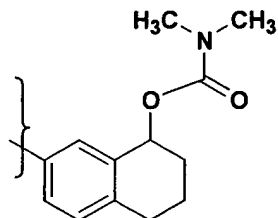


and R^3 is hydrogen;

D¹

a compound of formula (V) wherein:

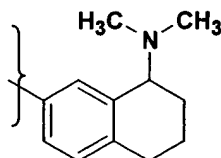
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

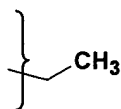
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

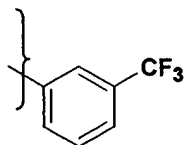
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

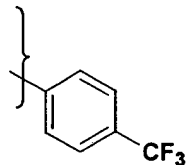
R^1 is



and R^3 is hydrogen;

D¹ a compound of formula (V) wherein:

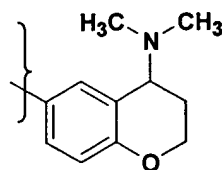
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

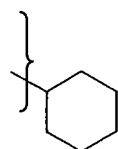
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

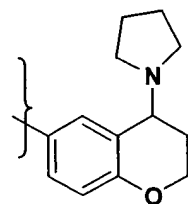
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

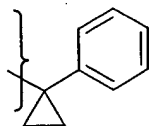
R¹ is



and R³ is hydrogen;

a compound of formula (V) wherein:

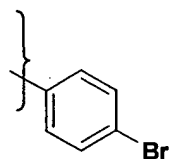
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

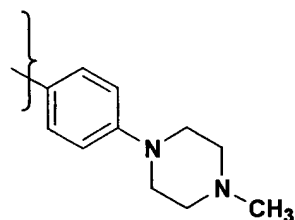
R^1 is



and R^3 is hydrogen;

a compound of formula (V) wherein:

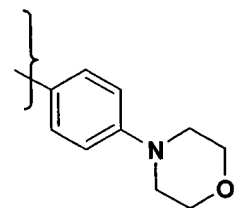
R^1 is



and R^3 is hydrogen;

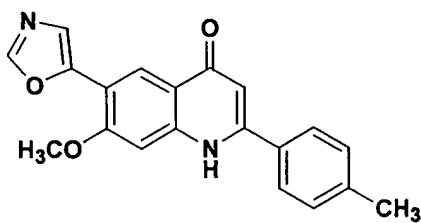
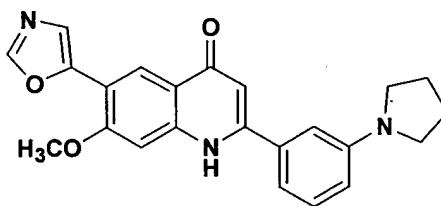
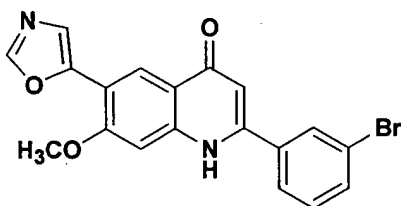
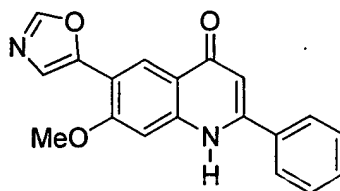
and a compound of formula (V) wherein:

R^1 is

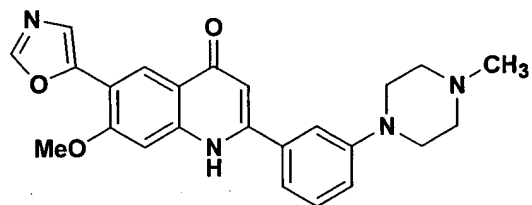
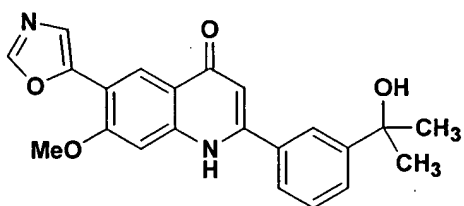
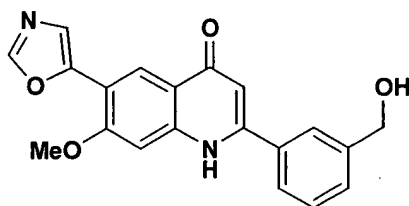
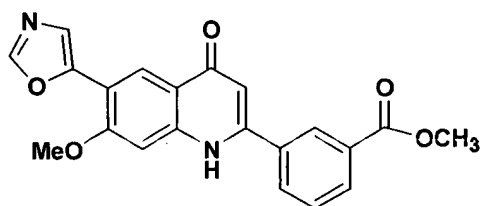
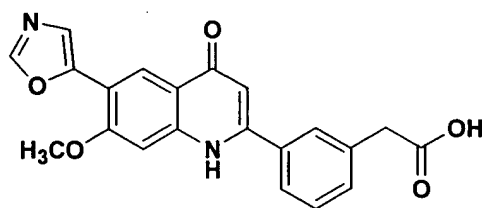


and R³ is hydrogen.

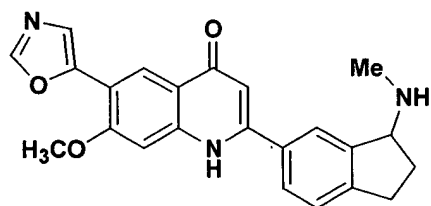
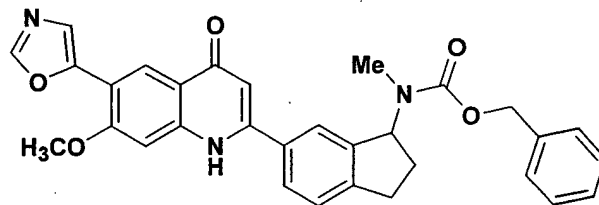
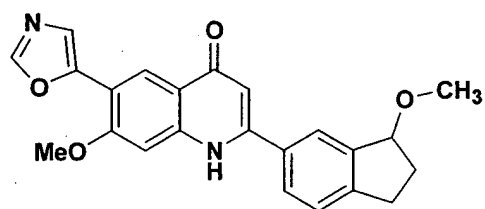
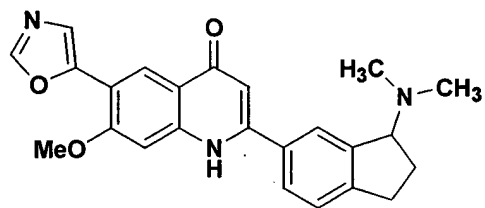
16. (currently amended) A compound of Claim 10 or including enantiomers, diastereomers, tautomers, pharmaceutically acceptable salts, and solvates thereof selected from:



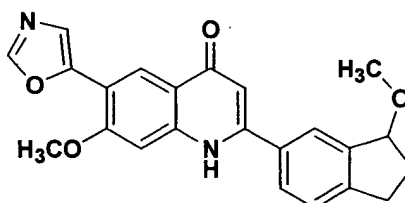
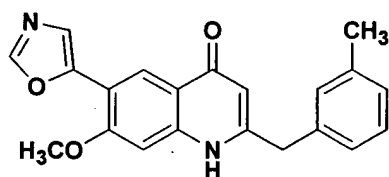
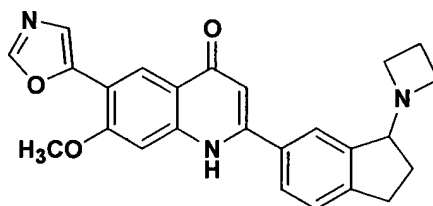
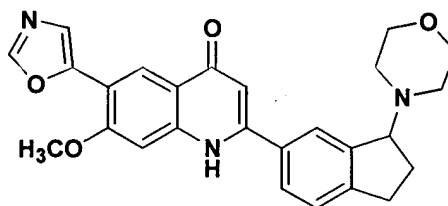
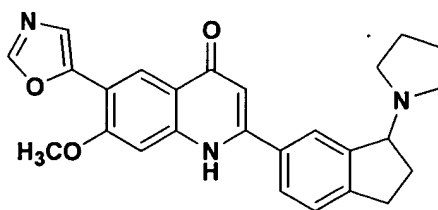
D₁



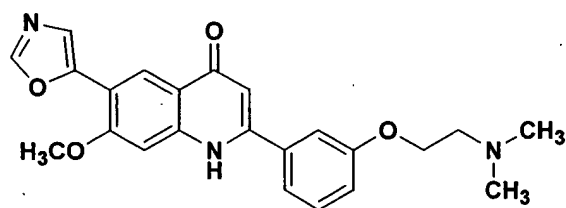
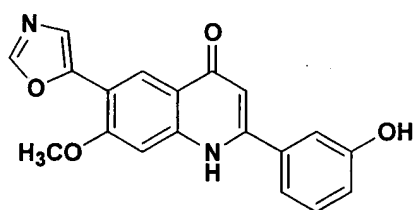
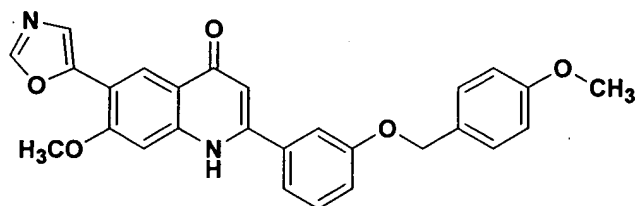
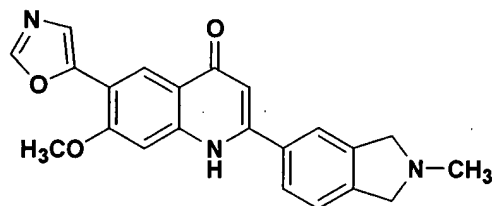
D1



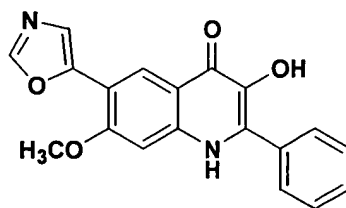
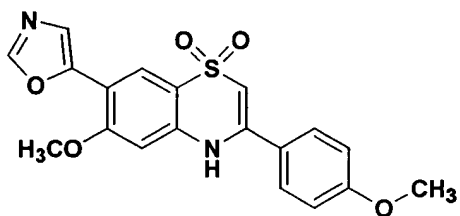
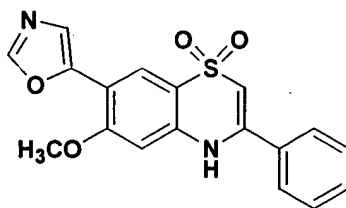
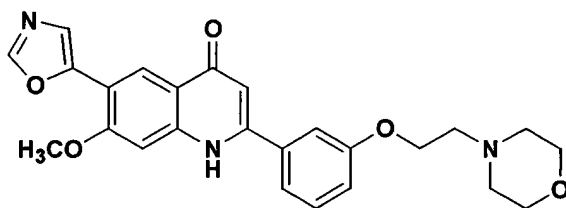
D1



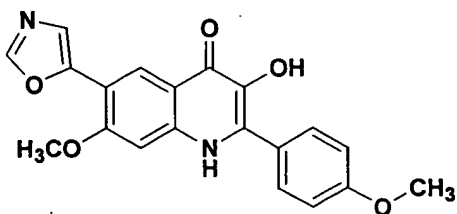
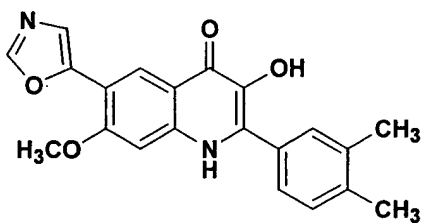
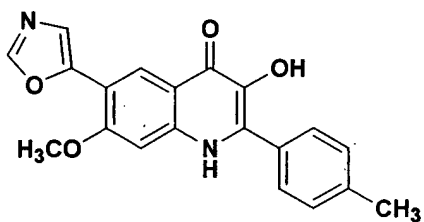
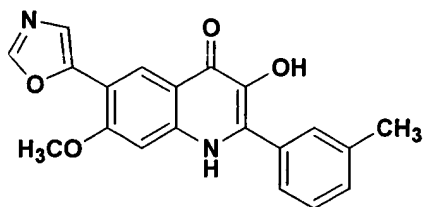
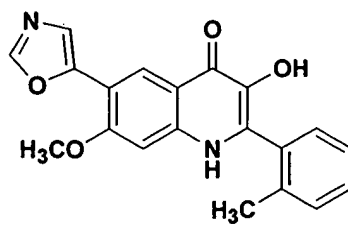
1



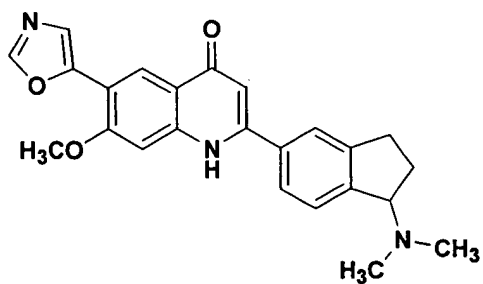
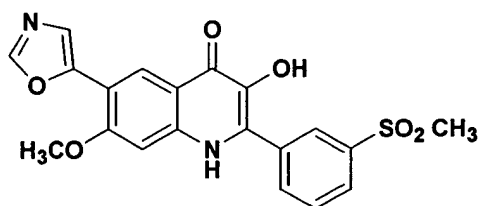
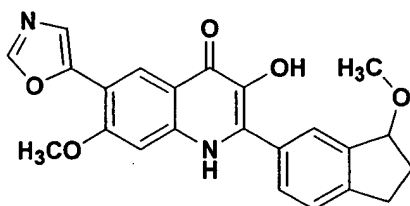
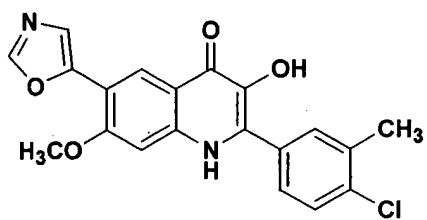
D1



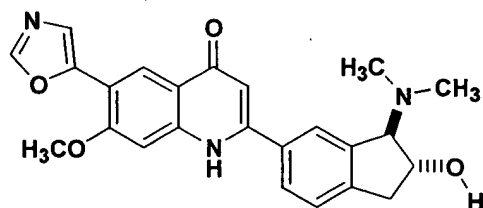
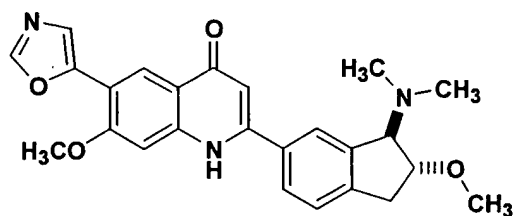
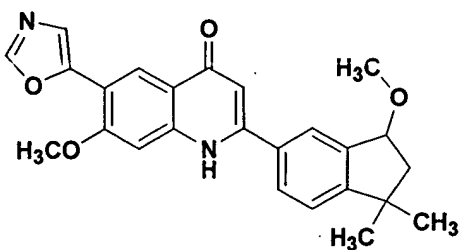
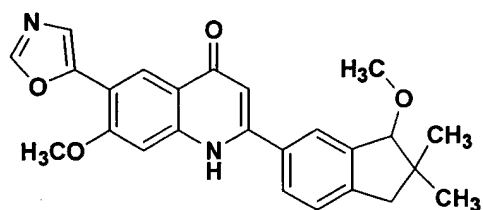
D1

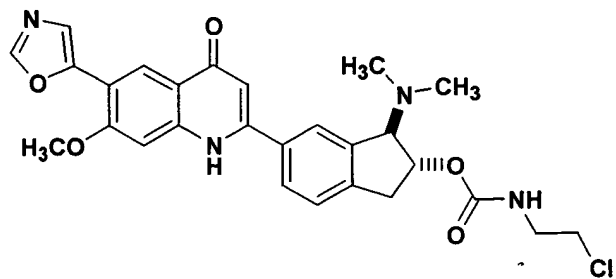
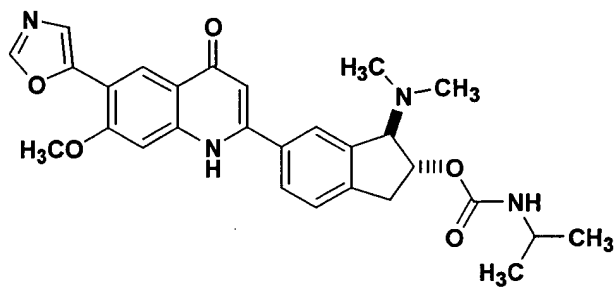
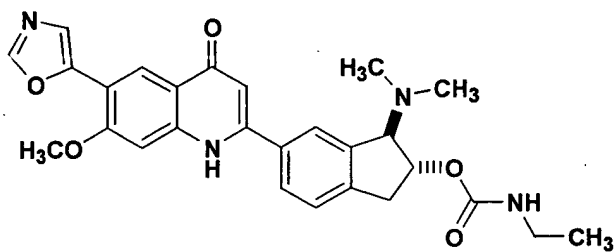
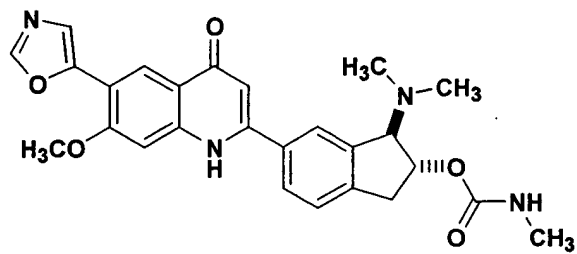


D1

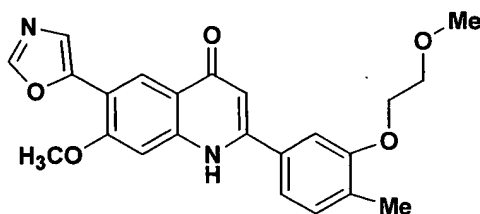
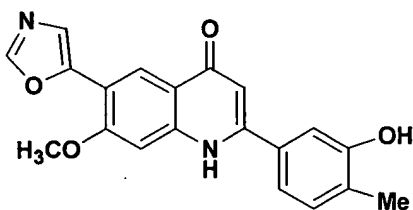
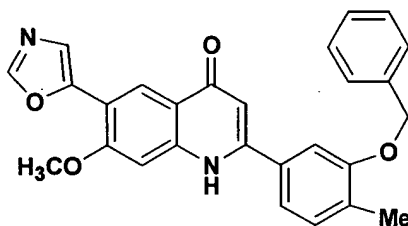
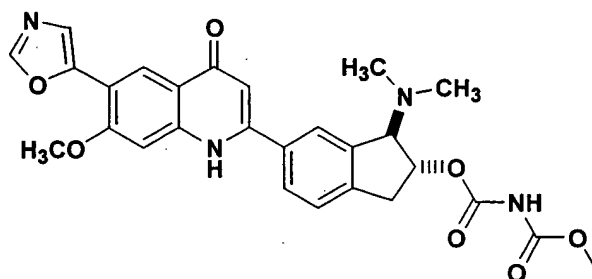


D1

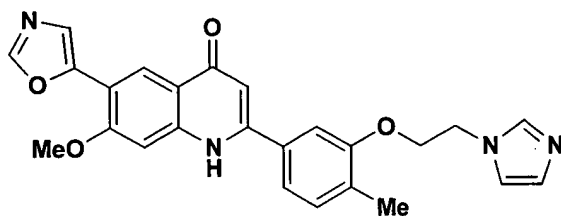
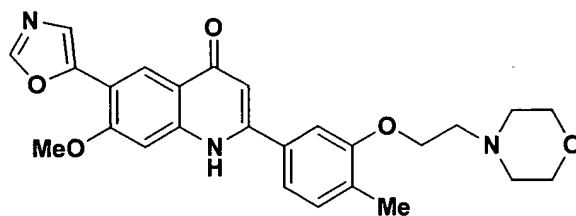
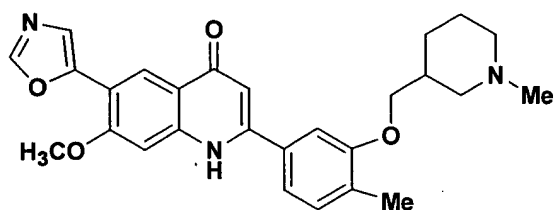




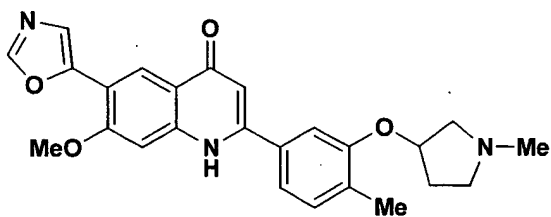
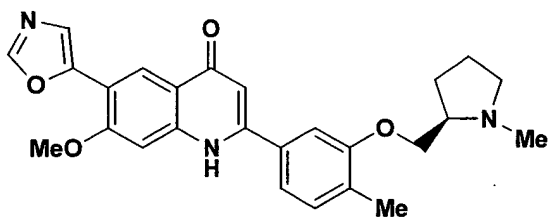
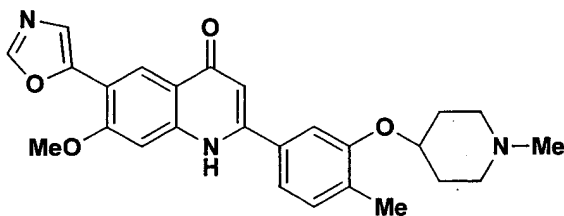
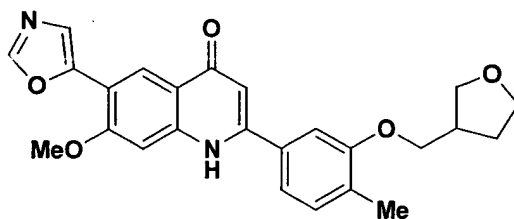
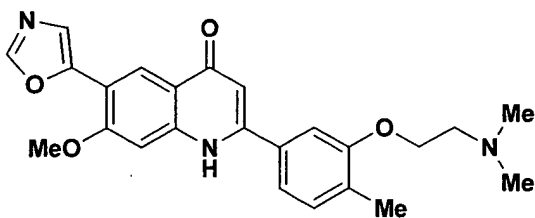
D1

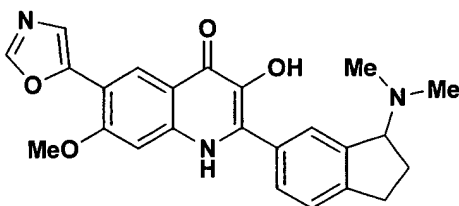
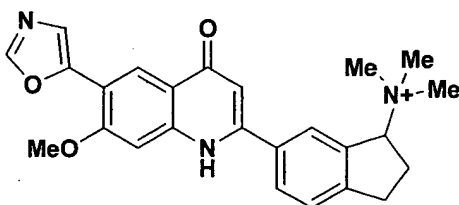
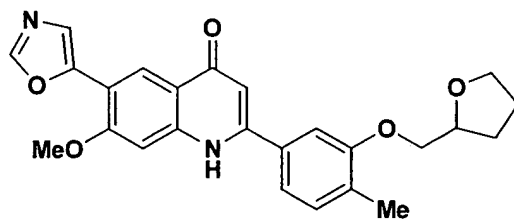
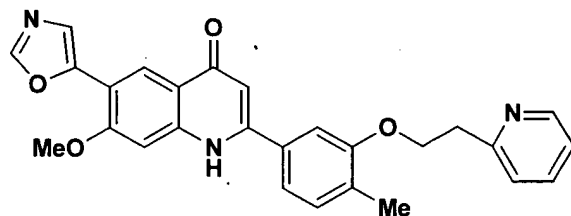


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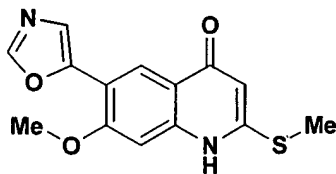
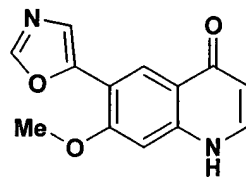
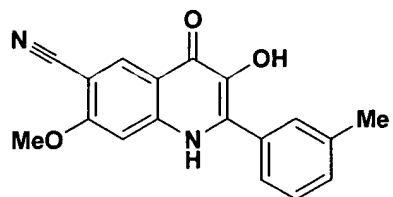
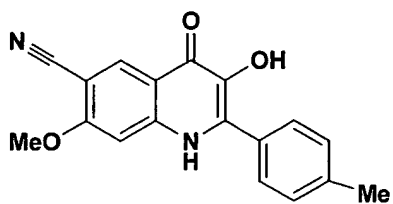


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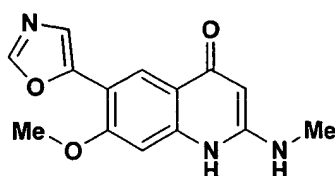
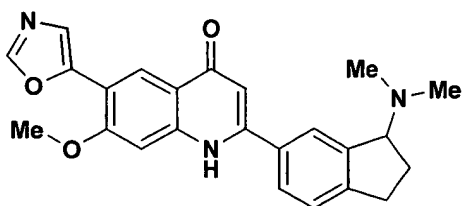
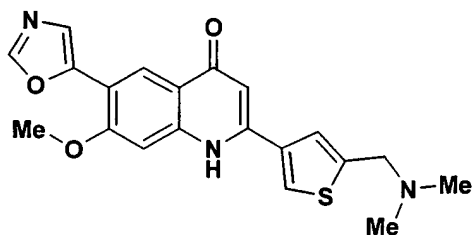
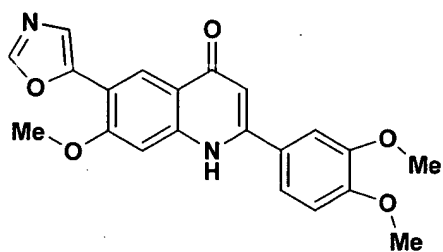
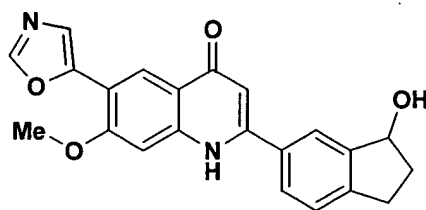




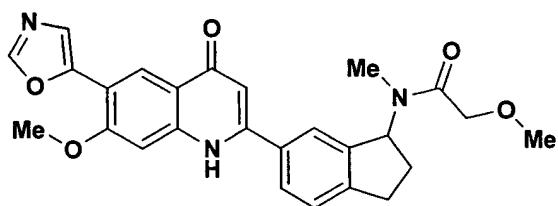
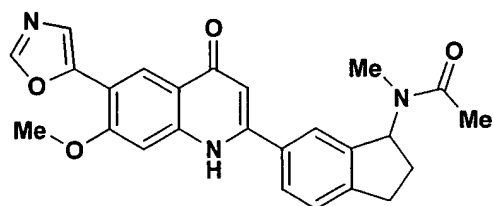
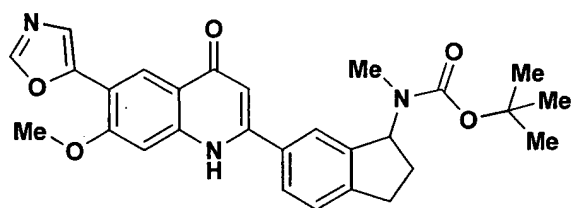
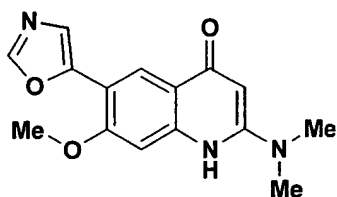
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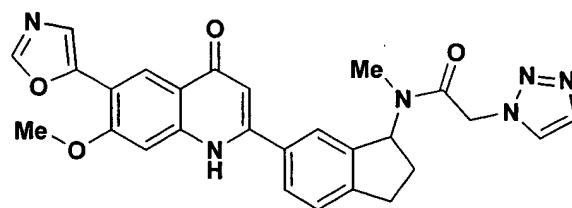
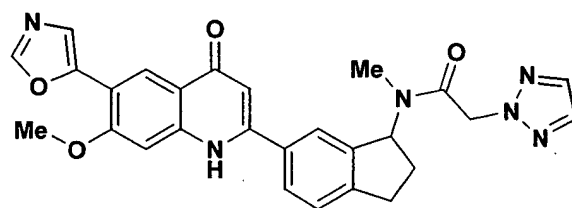
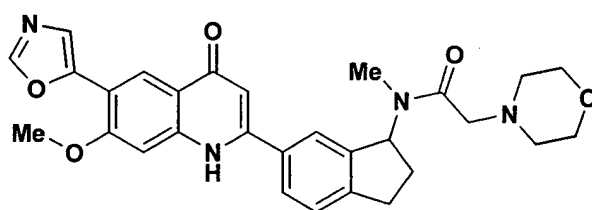
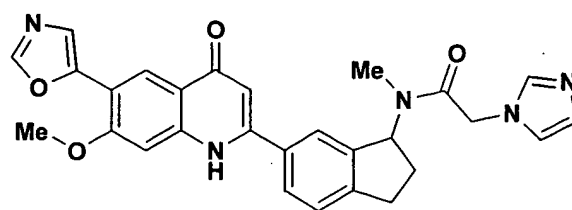


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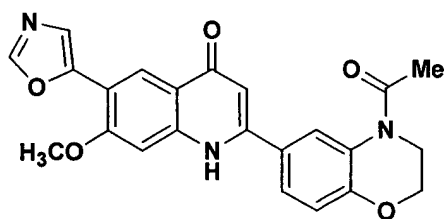
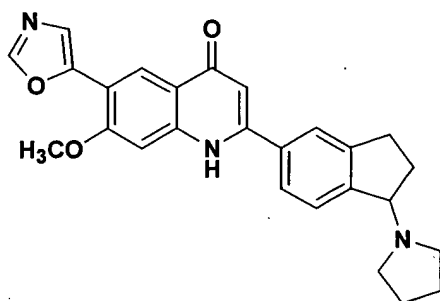
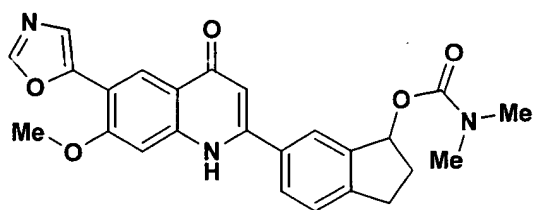
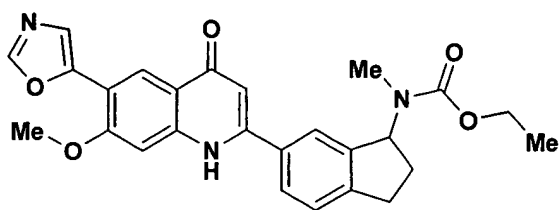


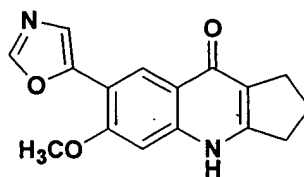
D¹



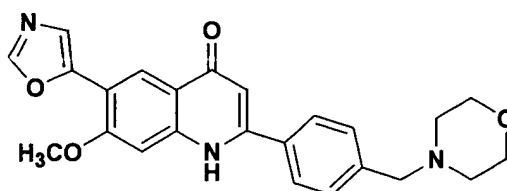


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and



17. (previously presented) A pharmaceutical composition comprising a compound of Claim 10 and a pharmaceutically acceptable carrier.
18. (previously presented) A pharmaceutical composition comprising a compound of Claim 11 and a pharmaceutically acceptable carrier.
19. (previously presented) A pharmaceutical composition comprising a compound of Claim 12 and a pharmaceutically acceptable carrier.
20. (previously presented) A pharmaceutical composition comprising a compound of Claim 13 and a pharmaceutically acceptable carrier.
21. (previously presented) A pharmaceutical composition comprising a compound of Claim 14 and a pharmaceutically acceptable carrier.
22. (previously presented) A pharmaceutical composition comprising a compound of Claim 15 and a pharmaceutically acceptable carrier.
23. (previously presented) A pharmaceutical composition comprising a compound of Claim 16 and a pharmaceutically acceptable carrier.

D1 24. -29. (canceled)

30. (previously presented) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of a compound of claim 10.

31. (previously presented) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of a compound of claim 11

32. (previously presented) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of a compound of claim 12.

33. (previously presented) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of a compound of claim 13.

34. (previously presented) A method of treating inosine monophosphate dehydrogenase associated disorders comprising; administering a therapeutically effective amount of a phosphodiesterase Type 4 inhibitor and a compound of claim 10.

35. (previously presented) A method for the treatment or prevention of allograft rejection comprising: administering a therapeutically effective amount of a phosphodiesterase Type 4 inhibitor and a compound of claim 10.

36. (canceled).

37. (previously presented) A method of claim 34 wherein: the phosphodiesterase Type 4 inhibitor is [4-[3-(cyclopentyloxy)-4-methoxyphenyl]-2-pyrrolidinone].

38. (previously presented) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering an therapeutically effective amount of the pharmaceutical composition of Claim 17.

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39. (previously presented) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of the pharmaceutical composition of Claim 17 and another agent known to be useful in treatment of such disorders.

40. (previously presented) A method of treating inosine monophosphate dehydrogenase associated disorders comprising: administering a therapeutically effective amount of the pharmaceutical composition of Claim 17 and a phosphodiesterase Type 4 inhibitor.

41. (previously presented) A method for the treatment or prevention of allograft rejection comprising: administering a therapeutically effective amount of the pharmaceutical composition of Claim 17 and a phosphodiesterase Type 4 inhibitor.
